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PASTURE GRASSES IDENTIFIED

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(Replaces OMAFRA Publication 204, *Pasture Grasses Identified*)

INTRODUCTION

Grasses are an important component of pastures in Ontario. In mixed legume and grass pastures, the grasses reduce the danger from bloat, help to keep weeds out and improve the chances of stands surviving the winter. Grass pastures can supply good yields of quality feed, and the wide selection of grass species means that there is a grass to suit almost any growing condition or management need.

This Factsheet identifies the main grass species that are used in pasture seed mixtures, as well as one weed species — quack grass. Quack grass is a common component in most pastures and is a good source of nutrition before it matures. Agronomic information for the cultivated species can be found in OMAFRA Publication 811, *Agronomy Guide for Field Crops.*

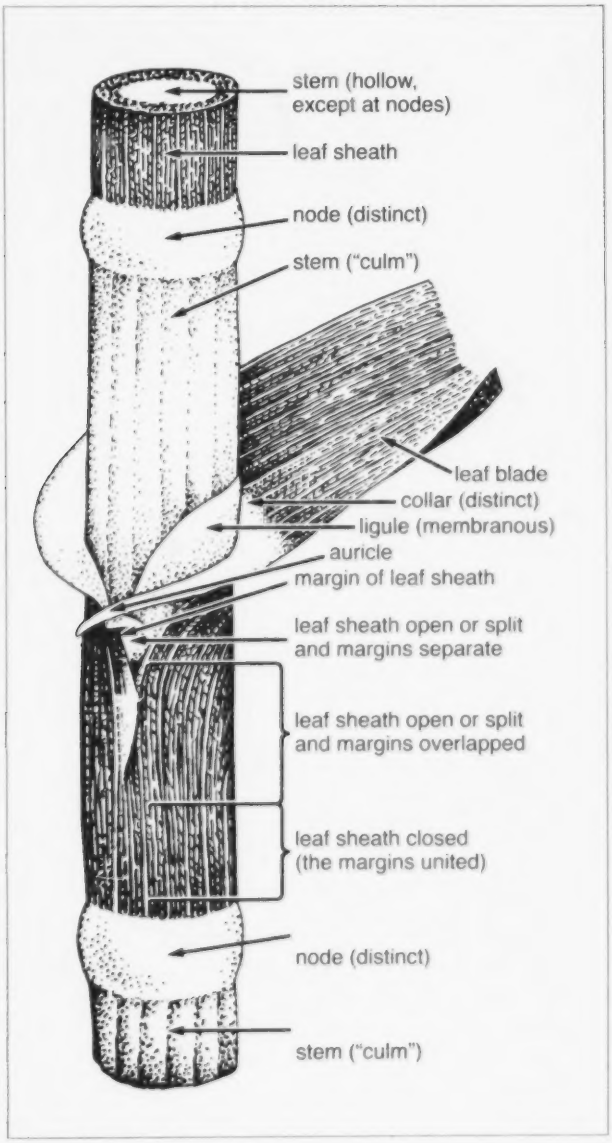

Figure 1. Leaf characteristics

IDENTIFICATION

Grasses can easily be identified by looking at the leaves, stems and inflorescences (seed heads). The drawings on the following pages show things to check when looking at each of these plant parts.

LEAVES

A leaf consists of 2 parts — the sheath and the blade (see Figure 1).

Sheath

The sheath is the tubular portion that surrounds the stem or younger growing leaves. The sheath can be:

- split, with margins separate
- split, with margins overlapping
- closed, forming a tube around the stem, with only a small notch on the side opposite to the leaf blade (Figure 2, below).

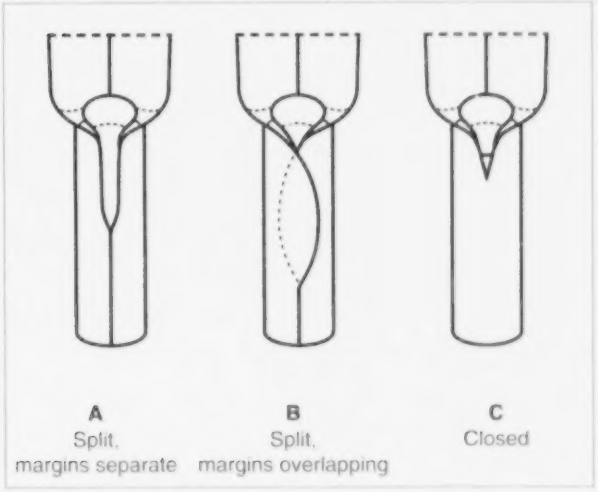

Figure 2. Sheath types

Blade

The blade is the upper, non-clasping part of the leaf. It is usually long and flat but may be slightly folded or rolled lengthwise, and bristle-like (Figure 3, below).

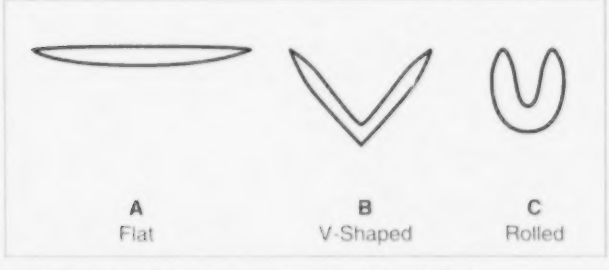

Figure 3. View of the cross-section of a leaf blade.

The tip of the blade can be boat-shaped, or tapered and flat (Figure 4, below).

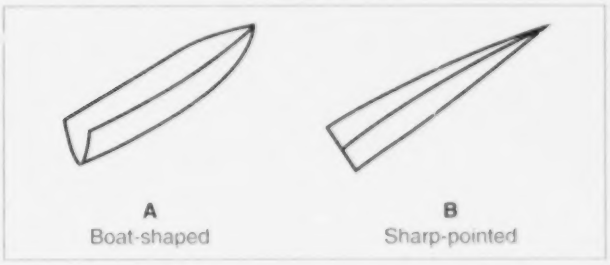

Figure 4. Leaf tip shapes

Collar

The area that divides the sheath and the blade is called the collar (see Figure 1). It can also offer clues to a grass's identity. The collar may be broad or narrow, have a conspicuous midrib or be continuous from one edge of the leaf to the other (Figure 5, below).

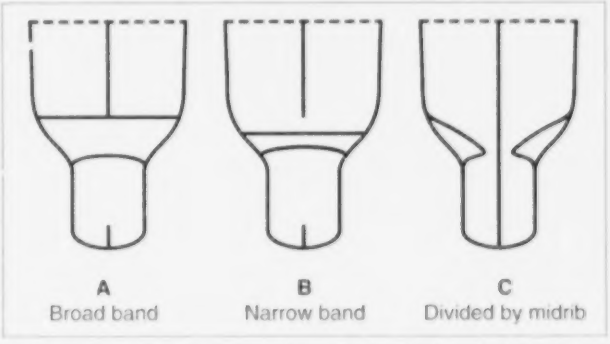

Figure 5. Collar types (seen from the back of the leaf blade)

Auricles and Ligules

Two types of appendages may be found on the collar. Auricles are claw-like and project from the sides of the collar. They are often absent, but when present they may vary from being large and clasping to small and slender (Figure 6, below).

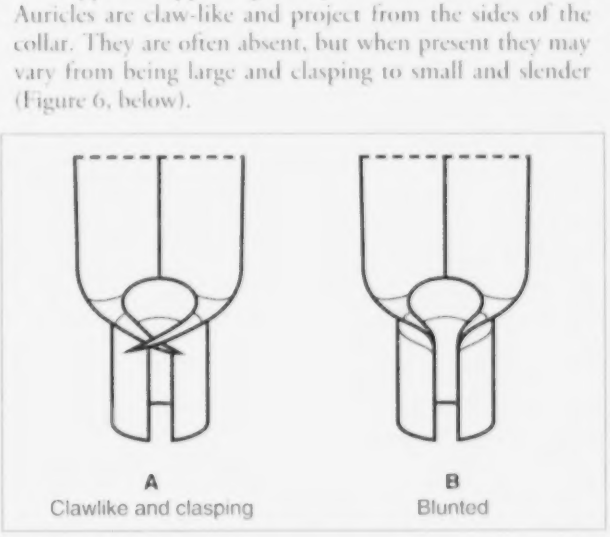

Figure 6. Aurical types

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The ligule is a very thin, tongue-like appendage growing upward from the inner surface of the collar between the leaf blade and the stem. If present, it may be just a fringe of hair or a thin membrane (Figure 7, below).

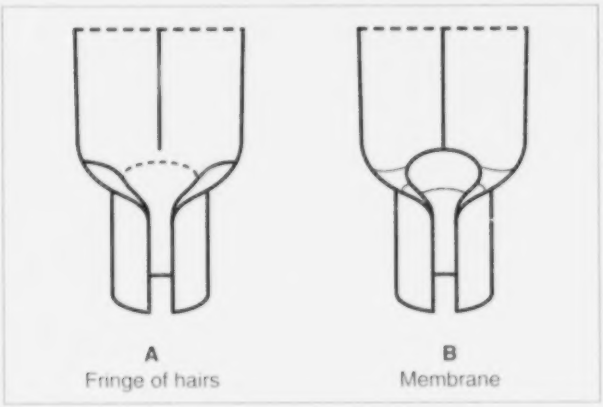


Figure 7. Ligule types

STEMS

The flowering stems of grasses are usually hollow and are either round or flat (Figure 8, below).

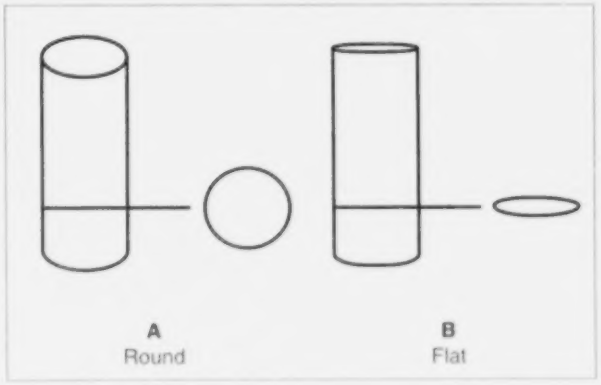


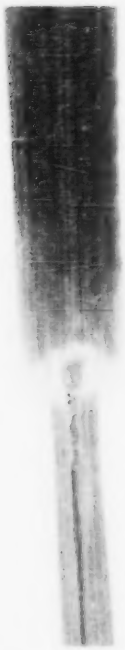
Figure 8. Stems

INFLORESCENCES

There are three forms of seed heads (Figure 9, below): panicle (branching), spike (unbranched, with uniformly spaced spikelets) and spike-like panicle (unbranched, with uniformly spaced spikelets).

Figure 9. Types of inflorescence

GRASS SPECIES	COLLAR	PLANT DESCRIPTION
TIMOTHY		
Figure 10A	Figure 10B	Our most commonly used forage grass. It is a light-green bunchgrass. The **sheath** is split with overlapping margins. The **blade** is 4–12 mm wide, 7–25 cm long and flat with a sharp-pointed tip. The **collar** is broad and continuous. There are no **auricles**. The **ligule** is a white membrane with a distinct notch and tooth on each side. The **stems** are round and 50–100 cm tall. The **inflorescence** is a very dense, spike-like panicle. **Distinguishing features** Flat, light-green, nearly smooth leaf blades and onion-like bulbs or corms at the base of the stems.
SMOOTH BROMEGRASS		
Figure 11A	Figure 11B	Varies in colour from light to dark green. It has brownish, blunt-tipped rhizomes covered with brown, scale-like sheaths and forms an open sod. The **sheath** is closed. The **blade** is 4–12 mm wide, 15–40 cm long and flat with a sharp, pointed tip. The **collar** is narrow and divided by the mid-rib. There are no **auricles**. The **ligule** is a very short membrane. The **stems** are round and 60–120 cm tall. The **inflorescence** is a large panicle with the branches spreading in all directions. When top heavy, the branches shift over to one side. **Distinguishing features** A constriction resembling the letter "W" usually in the leaf blade about midway between the tip and the collar.

GRASS SPECIES	COLLAR	PLANT DESCRIPTION
MEADOW BROMEGRASS		
Figure 12A	 Figure 12B	An under-used grass in pastures in Ontario. It has a high number of light-green, hairy leaves. It is a bunchgrass with a high re-growth and recovery rate. The **sheath** is closed to near the top and is hairy. The **blade** is 2–5 mm wide, 10–30 cm long and is flat with a sharp point tip. It is also hairy on both upper and lower surfaces. The **collar** is narrow and divided at the midrib. There are no **auricles**. The **ligule** is a short, white membrane not unlike the smooth brome species. The **stems** are round and 60–90 cm tall. The **inflorescence** is a large panicle with branches in all directions. It is a bit smaller than smooth bromegrass and has short awns. **Distinguishing features** The hairy blades and sheaths, and the many, drooping basal leaves distinguish this grass from smooth bromegrass.
ORCHARD GRASS		
Figure 13A	Figure 13B	A fast-growing light-green bunchgrass. The **sheath** is split part way and is green on the top and pale green or white on the lower part. The **blade** is 5–12 mm wide and 8–40 cm long. It is V-shaped near the base, but flat towards the sharp, pointed tip. The yellow-green **collar** is broad and divided by a midrib. There are no **auricles**. The **ligule** is a white membrane that usually has an awn-like point at the top. The **stems** are flat and 90–150 cm tall. The **inflorescence** is a panicle made up of several short, thick tufts. **Distinguishing features** The flat stems and the coarsely tufted panicle.

GRASS SPECIES	COLLAR	PLANT DESCRIPTION

REED CANARY GRASS

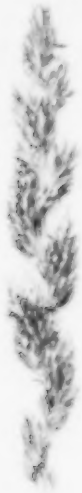


Figure 14A

Figure 14B

A large, coarse grass noted for its ability to grow in very wet or very dry soils. It forms a loose sod.

The **sheath** is split with overlapping margins. The **blade** is 6–15 mm wide, 10–30 cm long and flat with a sharp-pointed tip. The pale green or yellow **collar** is narrow and continuous. There are no **auricles**. The **ligule** is a white membrane that sometimes tears at the top with maturity. **Stems** are round. The **inflorescence** is a panicle similar to orchard grass but with finer tufts.

Distinguishing features

Wide leaf blades and edges of the blade constricted 5 cm from either the tip or the collar.

CREEPING RED FESCUE

Figure 15A

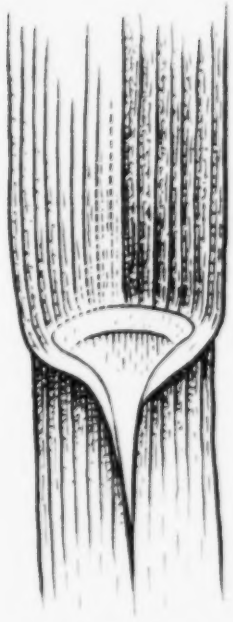


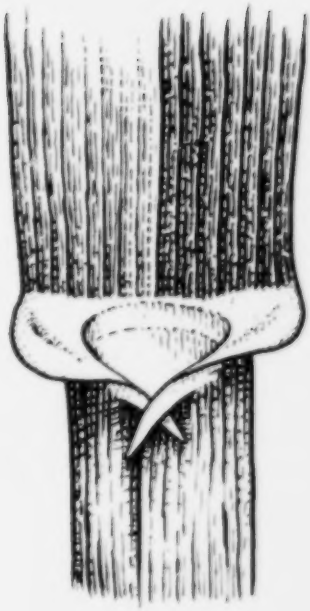
Figure 15B

A sod-forming grass that has narrow, bristle-like dark green leaves.

The **sheath** is split part way and covered with fine hairs. The **blade** is 1.5–3 mm wide, 5–15 cm long, thick and rolled or folded lengthwise. The upper surface is deeply ridged, and the undersurface is shiny. The **collar** is narrow and continuous. There are no **auricles**. The **ligule** is a very short membrane. The **stems** are nearly round. The **inflorescence** is an open, fine panicle.

Distinguishing features

Dark-green, very slender and bristle-like leaves; old, dead basal leaf sheaths are reddish brown (hence the common name).

GRASS SPECIES	COLLAR	PLANT DESCRIPTION
MEADOW FESCUE		
Figure 16A	 Figure 16B	A deep-rooted, bright-green grass. Usually a bunchgrass, it has short rhizomes and may be weakly creeping. The **sheath** is split with the margins overlapping at the bottom. The **blade** is 3–8 mm wide and 10–50 cm long, the upper side is dull and the lower side shiny. The edges are rough, and the tip is sharp-pointed. The **collar** is broad and continuous. The **auricles** are 0.5–1.5 mm long and usually blunt but sometimes claw like. The **ligule** is a very short membrane. The **stems** are round and 60–125 cm tall. The **inflorescence** is a slender panicle. **Distinguishing features** Rough leaf edges, short ligules and claw-like auricles.
TALL FESCUE		
Figure 17A	Figure 17B	A deep-rooted grass that produces well during the summer and retains its feed quality after being frosted. This deep green grass forms large (10–40 cm diameter), dense bunches, even though it has short rhizomes. The **sheath** is split with the margins overlapping. The sheaths are smooth, thick and leathery, and the lower ones are very slow to decay. The **blade** is 4–12 mm wide, 20–70 cm long and flat with a sharp-pointed tip. It is thick and leathery, very smooth and shiny on the under-surface but dull and deeply ridged on the upper surface. The edges are rough. The yellowish **collar** is broad and wrinkled on the edges. The yellowish **auricles** are soft and wavy and have a few fine hairs along their margins. The **ligule** is a small membrane. The **stems** are round and 90–150 cm tall. The **inflorescence** is a spreading panicle. **Distinguishing features** Its tall, coarse growth, the prominently ribbed leathery dark green leaves, and the thick tussocks formed by the accumulation of old dead leaf sheaths for several years.

GRASS SPECIES	COLLAR	PLANT DESCRIPTION

MEADOW FOXTAIL

Figure 18A

Figure 18B

An early, fast growing, dark-green grass that looks similar to timothy. It grows well on moist soils and forms a sod.

The **sheath** is split with the margins overlapping. The **blade** is 3–8 mm wide, 10–15 cm long and flat with a sharp-pointed tip; the edges are rough. The upper surface is prominently ribbed. The light-green or yellow, medium-broad **collar** is divided by the midrib. There are no **auricles**. The **ligule** is a coarse membrane that is slightly hairy and striated. The **stems** are round and 50–100 cm tall. The **inflorescence** is a dense, spike-like panicle and looks like timothy. The short, soft awns along the sides of the seed head give the appearance of a fox's tail.

Distinguishing features

The rough leaf edges, the type of ligule, and the collar divided by the midribs distinguish meadow foxtail from timothy.

KENTUCKY BLUEGRASS

Figure 19A

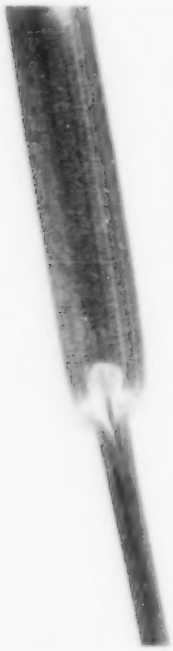
Figure 19B

A dark-green grass that forms a dense sod in pastures with fertile, well-drained soils.

The **sheath** is closed when the plant is young but later splits. The **blade** is 2–5 mm wide, 5–40 cm long and V-shaped with a boat-shaped tip. It is shiny on the under-surface. The yellowish-green **collar** is broad and slightly divided by the midrib. There are no **auricles**. The **ligule** is a very short membrane. The **stems** are somewhat flattened and 30–100 cm tall. The **inflorescence** is an open, fine panicle with 5 branches at each node of the central axis.

Distinguishing features

The dark green colour and the shininess of the underside of leaves plus the boat-shaped leaf tips. The lead blade, when held up to the light, looks as if it has two transparent lines on each side of the midrib.

GRASS SPECIES	COLLAR	PLANT DESCRIPTION
CANADA BLUEGRASS		
Figure 20A	 Figure 20B	A bluish-green grass commonly found in run-down pastures. It forms an open sod. The **sheath** is split. The **blade** is 2–5 mm wide, 2–10 cm long, and flat to V-shaped with a boat-shaped tip. The light-green **collar** is narrow and divided by the midrib. There are no **auricles**. The **ligule** is a short membrane. The **stems** are flat, and 50–75 cm tall. The **inflorescence** is a slender, fine panicle with 2 branches at each node of the central axis. **Distinguishing features** The pale bluish-green colour and dullness of leaves, which taper gradually from the collar to their boat-shaped tips. The leaf blade, when held up to light, looks as if it has a fine transparent line on each side of the midrib.
PERENNIAL RYEGRASS		
Figure 21A	Figure 21B	A soft, fine, bright-green grass that has a fibrous root system. It is short-lived despite its name. The pale-green **sheath** can be either closed or split. The **blade** is 2–6 mm wide, 5–15 cm long and V-shaped, with a sharp-pointed tip. It is prominently ribbed on the top and smooth and shiny on the bottom. The **collar** is narrow. The **auricles** are small, soft and claw-like. The **ligule** is a thin membrane that is toothed at the top. The **stems** are flat and short, 30–60 cm tall. The **inflorescence** is a slender, stiff spike with each spikelet edgewise on the central axis. **Distinguishing features** The somewhat flattened or round stems, the shiny undersides of the bright green leaf blades, the soft, claw-like auricles and the spike inflorescence.

GRASS SPECIES	COLLAR	PLANT DESCRIPTION

RED TOP

Figure 22A

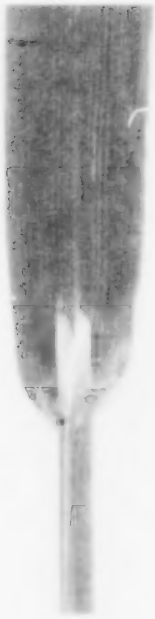


Figure 22B

A common grass in pastures that have moderately moist soils. It has dark-green leaves and somewhat purplish inflorescences, which turn rusty red as they mature. It forms an open sod.

The **sheath** is split, with the margins overlapping. The **blade** is 2–7 mm wide, 5–20 cm long and flat with a sharp, pointed tip. It is prominently ridged on the upper surface, and the midrib is distinct on the bottom side. The pale green **collar** is large and V-shaped. There are no **auricles**. The **ligule** is a thin, pointed membrane that is very tall. The **inflorescence** is a fine panicle that is a rusty-red colour at maturity.

Distinguishing features

The prominently ridged upper surface of the blade, the tall ligule and the absence of auricles.

QUACK GRASS

Figure 23A

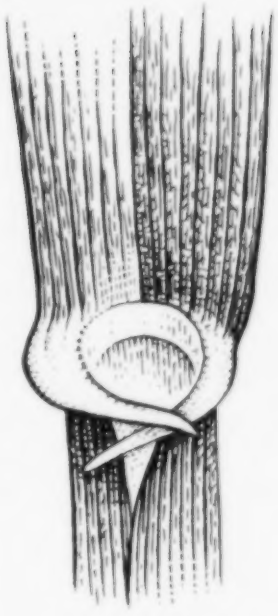


Figure 23B

A commonly found grass that is known for its long rhizome system that produces a loose but tough-to-kill sod.

The **sheath** is split, with the margins overlapping. It may be smooth but is usually very hairy. The **blade** is 3–10 mm wide, 8–20 cm long and flat with a sharp-pointed tip. It is slightly hairy on the upper surface. The **collar** is V-shaped and divided by the midrib. It is finely hairy. The **auricles** are 1–3 mm long, slender and clasping. The **ligule** is a short, finely toothed membrane. The **stems** are round and 50–100 cm tall. The **inflorescence** is a slender, stiff spike with each little spikelet placed flat-wise on the central axis.

Distinguishing features

The slender, erect stems normally with hairy, split-leaf sheaths, clasping auricles and a short ligule; and a tough sod full of light-coloured rhizomes with hard, white, sharp, pointed tips.

This Factsheet was revised by Jack Kyle, Grazier Specialist, OMAFRA, Lindsay, from a publication originally written by S.E. Robinson, formerly of Plant Industry Branch, OMAFRA, North Bay, J.F. Alex, retired, Department of Environmental Biology, University of Guelph, E. Ann Clark, Department of Crop Science, University of Guelph.

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